

March 4, 2003

Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT
REGARDING DELETION OF ALTERNATE REPAIR CRITERIA REQUIREMENTS
FROM THE TECHNICAL SPECIFICATIONS (TAC NO. MB5939) (TS 02-02)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 282 to Facility Operating License No. DPR-77 for the Sequoyah Nuclear Plant, Unit 1. This amendment is in response to your application dated March 29, 2002.

The amendment deletes several of the Unit 1 Technical Specification surveillance requirements contained in TS 3/4.4.5, "Steam Generators" (SGs), associated with the voltage-based SG alternative repair criteria. In addition the proposed changes would delete License Condition 2.C.9.d, which references commitment letters associated with SG inspection activities.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Raj K. Anand, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-327

Enclosures: 1. Amendment No. 282 to
License No. DPR-77
2. Safety Evaluation

cc w/encls: See next page

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TENNESSEE VALLEY AUTHORITY
DOCKET NO. 50-327
SEQUOYAH NUCLEAR PLANT, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 282
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated March 29, 2002, as supplemented October 10, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Operating License and Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 282 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented during the 2003 Sequoyah Unit 1 Cycle 12 Refueling Outage.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Allen G. Howe, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Operating License
and Technical Specifications

Date of Issuance: March 4, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 282

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace page 5 of Operating License No. DPR-77 with the attached page.

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4.4-7
3/4.4-9
3/4.4-9a
3/4.4-9b
3/4.4-10
3/4.4-10a
B3/4.4-3
B3/4.4-4
B3/4.4-4a

INSERT

3/4.4-7
3/4.4-9

3/4.4-10

B3/4.4-3
B3/4.4-4
B3/4.4-4a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 282 TO FACILITY OPERATING LICENSE NO. DPR-77

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-327

1.0 INTRODUCTION

By letter dated March 29, 2002, as supplemented by letter dated October 10, 2002, the Tennessee Valley Authority (TVA, the licensee) submitted an amendment to the Sequoyah, Unit 1 (SQN1) Technical Specifications (TSs). The licensee has requested the TS amendment since the steam generators at SQN1 are being replaced during their Cycle 12 refueling outage, which is scheduled to begin in March 2003. The licensee requested that the revised TSs be made effective during the Unit 1 cycle 12 refueling outage. The licensee has proposed to delete requirements associated with two alternate steam generator tube repair criteria, which are contained in TS section 3/4.4.5, "Steam Generators," its associated Bases, and in License Condition 2.C.9.d. Specifically, in the TSs the licensee has proposed to delete the following Surveillance Requirements (SRs): 4.4.5.2.b.4, 4.4.5.2.d, 4.4.5.2.e, a portion of 4.4.5.4.a.6, 4.4.5.4.a.10, 4.4.5.4.a.11, 4.4.5.5.d, and 4.4.5.5.e. The licensee requested that the revised TSs be made effective during the Unit 1 cycle 12 refueling outage.

The October 10, 2002, letter withdrew a portion of the original submittal that affected the original no significant hazards consideration determination. A revised no significant hazards consideration determination was published in the *Federal Register* on October 29, 2002.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 Section 50.36 defines those items that must be included in the TSs. The SQN1 TSs contain surveillance requirements for steam generator (SG) tubes consistent with this regulation. As the SG tubes at SQN1 degraded, the licensee, sought license amendments to modify the TS SG tube repair criteria with the requirements in 10 CFR 50.90. These amendments incorporated into the TSs alternate tube repair criteria which permitted degradation to remain in service under certain conditions. These tube repair criteria were developed based on the design of the current steam generators at SQN1. These repair criteria were reviewed and approved by the staff after consideration of the guidance in Regulatory Guide 1.121, "Bases for Plugging Degraded PWR [pressurized water reactor] Steam Generator Tubes." Since SQN1 will be replacing their original SGs with a new design (including different materials of construction), this evaluation focuses on the appropriateness of using these previously approved alternate tube repair criteria for the new design. In its review, the U.S. Nuclear Regulatory Commission (NRC) staff considered the guidance in Regulatory Guide 1.121 and the increased resistance to tube degradation as a result of the changes in the SG design as discussed by the Licensee in Section II of their submittal.

TECHNICAL EVALUATION

As a result of degradation associated with the mill annealed alloy 600 SG tubes in their original Model 51 SGs, TVA incorporated two alternate repair criteria into their TSs (including the Bases and License Condition 2.C.9.d). These two alternate repair criteria addressed (1) outside diameter stress corrosion cracking at non-dented tube support plates and (2) axial primary water stress corrosion cracking at dented tube support plates. The replacement SGs incorporate a number of design and material changes that make the SGs more resistant to stress corrosion cracking. These design changes potentially invalidate the basis for the repair criteria and/or reduce the need for these repair criteria.

TVA has proposed to eliminate reference to the two alternate repair criteria discussed above (voltage-based limit for outside diameter stress corrosion cracking at non-dented tube support plates and the depth-based limit for axial primary water stress corrosion cracking at dented tube support plates). TVA's proposal to remove the references to these alternate repair criteria would result in the licensee having to plug/repair degradation that has a depth at or above the standard 40 percent through-wall plugging limit. TVA's proposal to delete these alternate repair criteria results in a more conservative plugging/repair limit than what is currently required. In addition, the basis for these two alternate repair criteria relied on information specific to the original SGs which may no longer be valid with the replacement SGs. As a result of these considerations, the staff finds the proposed changes to the TSs and License Condition 2.C.9.d acceptable.

Based on the fact that deletion of the alternate repair criteria from the TSs and License will result in a more conservative limit than current requirements, the staff has determined that the proposed changes are acceptable. Therefore, the staff has concluded that there is reasonable assurance that the health and safety of the public will not be adversely affected by the deletion of the two alternate repair criteria review from the identified TS SRs and License Condition.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and the changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (67 FR 66014). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Kenneth J. Karwoski, NRR

Dated: March 4, 2003

Mr. J. A. Scalice
Tennessee Valley Authority

SEQUOYAH NUCLEAR PLANT

cc:

Mr. Karl W. Singer, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Pedro Salas, Manager
Licensing and Industry Affairs
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Mr. James E. Maddox, Acting Vice President
Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. D. L. Koehl, Plant Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Mr. Richard T. Purcell
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

General Counsel
Tennessee Valley Authority
ET 11A
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Lawrence E. Nanney, Director
Division of Radiological Health
Dept. of Environment & Conservation
Third Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Mr. Robert J. Adney, General Manager
Nuclear Assurance
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

County Executive
Hamilton County Courthouse
Chattanooga, TN 37402-2801

Mr. Mark J. Burzynski, Manager
Nuclear Licensing
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Ms. Ann P. Harris
341 Swing Loop Road
Rockwood, Tennessee 37854